EBERLINE SERVICES

January 28, 2005

Mr. Steve Trent
Fluor Hanford Inc.
825 Jadwin Avenue
Richland, WA 99352

Reference: **P.O. #630**
Eberline Services R4-11-062-7145, SDG H2812

Dear Mr. Trent:

Enclosed is the data report for one water sample designated under SAF No. F03-007 received at Eberline Services on November 4, 2004. The sample was analyzed according to the accompanying chain-of-custody document.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Senior Program Manager

MCM/njv

Enclosure: Data Package

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

1.0 GENERAL

Fluor Hanford Inc. (FH) Sample Delivery Group H2812 was composed of one water sample designated under SAF No. F03-007 with Project Designations of: 200-PW-2/200-PW-4 OU – QC Sampling.

The sample was received as stated on the Chain-of-Custody document. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Carbon-14 Analyses

No problems were encountered during the course of the analyses.

2.3 Nickel-63 Analyses

No problems were encountered during the course of the analyses.

2.3 Iodine-129 Analyses

No problems were encountered during the course of the analyses.

2.4 Isotopic Thorium Analyses

No problems were encountered during the course of the analyses.

Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Mel Mann
Melissa C. Mannion
Senior Program Manager

1/28/5
Date

E B E R L I N E S E R V I C E S / R I C H M O N D
SAMPLE DELIVERY GROUP H2812

SDG	7145
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG H2812

S U M M A R Y D A T A S E C T I O N

T A B L E O F C O N T E N T S

Prepared by

Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_H2812

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

00000004

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H2812

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

SDG 7145
Contact Melissa C. Mannion

SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG H2812

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
B1B569	200-PW-2/216-S-7	WATER		R411062-01	F03-007	F03-007-020	10/29/04 07:00
Method Blank		WATER		R411062-03	F03-007		
Lab Control Sample		WATER		R411062-02	F03-007		
Duplicate (R411062-01)	200-PW-2/216-S-7	WATER		R411062-04	F03-007		10/29/04 07:00
Spike (R411062-01)	200-PW-2/216-S-7	WATER		R411062-05	F03-007		10/29/04 07:00

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

QC SUMMARY

SDG 7145
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H2812

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7145	F03-007-020	B1B569	WATER		6.25 L		11/04/04	6	R411062-01	7145-001
		Method Blank	WATER						R411062-03	7145-003
		Lab Control Sample	WATER						R411062-02	7145-002
		Duplicate (R411062-01)	WATER		6.25 L		11/04/04	6	R411062-04	7145-004
		Spike (R411062-01)	WATER		6.25 L		11/04/04	6	R411062-05	7145-005

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

PREP BATCH SUMMARY

SDG 7145
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H2812

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
TH	WATER	Thorium, Isotopic in Water	7104-167	5.0	1			1	1	1/1		
Gamma Spectroscopy												
I	WATER	Iodine 129 in Water	7104-167	5.0	1			1	1	1/1		
Liquid Scintillation Counting												
C	WATER	Carbon 14 in Water	7104-167	10.0	1			1	1	1/1	1/1	X
NI_L	WATER	Nickel-63 in Liquid	7104-167	10.0	1			1	1	1/1		

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

SDG 7145
Contact Melissa C. Mannion

WORK SUMMARY

Client Hanford
Contract No. 630
Case no SDG H2812

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
B18569			R411062-01	7145-001	C		12/18/04	01/24/05	MWT	Carbon 14 in Water
200-PW-2/216-S-7		WATER	10/29/04	7145-001	I		12/07/04	12/10/04	MWT	Iodine 129 in Water
F03-007-020	F03-007		11/04/04	7145-001	NI_L		12/10/04	12/17/05	MWT	Nickel-63 in Liquid
				7145-001	TH		12/08/04	12/10/04	MWT	Thorium, Isotopic in Water
Method Blank			R411062-03	7145-003	C		12/18/04	01/24/05	MWT	Carbon 14 in Water
		WATER		7145-003	I		12/08/04	12/10/04	MWT	Iodine 129 in Water
	F03-007			7145-003	NI_L		12/10/04	12/17/05	MWT	Nickel-63 in Liquid
				7145-003	TH		12/08/04	12/10/04	MWT	Thorium, Isotopic in Water
Lab Control Sample			R411062-02	7145-002	C		12/18/04	01/24/05	MWT	Carbon 14 in Water
		WATER		7145-002	I		12/08/04	12/10/04	MWT	Iodine 129 in Water
	F03-007			7145-002	NI_L		12/10/04	12/17/05	MWT	Nickel-63 in Liquid
				7145-002	TH		12/08/04	12/10/04	MWT	Thorium, Isotopic in Water
Duplicate (R411062-01)			R411062-04	7145-004	C		12/18/04	01/24/05	MWT	Carbon 14 in Water
200-PW-2/216-S-7		WATER	10/29/04	7145-004	I		12/10/04	12/10/04	MWT	Iodine 129 in Water
	F03-007		11/04/04	7145-004	NI_L		12/10/04	12/17/05	MWT	Nickel-63 in Liquid
				7145-004	TH		12/09/04	12/10/04	MWT	Thorium, Isotopic in Water
Spike (R411062-01)			R411062-05	7145-005	C		12/19/04	01/24/05	MWT	Carbon 14 in Water
200-PW-2/216-S-7		WATER	10/29/04							
	F03-007		11/04/04							

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
C	F03-007	Carbon 14 in Water	C14_CHEM_LSC	1			1	1	1	1	5
I	F03-007	Iodine 129 in Water	I129_SEP_LEPS_GS	1			1	1	1		4
NI_L	F03-007	Nickel-63 in Liquid	NI63_LSC	1			1	1	1		4
TH	F03-007	Thorium, Isotopic in Water	THISO_IE_PLATE_AEA	1			1	1	1		4
TOTALS				4			4	4	4	1	17

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 01/26/05

0000009

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H2812

R411062-03 Method Blank

METHOD BLANK

SDG 7145	Client/Case no Hanford	SDG H2812	
Contact Melissa C. Mannion	Contract No. 630		
Lab sample id R411062-03	Client sample id Method Blank		
Dept sample id 7145-003	Material/Matrix	WATER	
	SAF No F03-007		

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Carbon 14	14762-75-5	-18.4	21	36	200	U	C
Nickel 63	13981-37-8	-0.931	1.6	2.8	15	U	NI_L
Thorium 228	14274-82-9	0.012	0.023	0.032		U	TH
Thorium 230	14269-63-7	-0.006	0.052	0.11	1.0	U	TH
Thorium 232	TH-232	-0.003	0.017	0.036	1.0	U	TH
Iodine 129	15046-84-1	-1.17	1.4	3.1	5.0	U	I

200-PW-2/200-PW-4 OU - QC Sampling

QC-BLANK 49895

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

R411062-02

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7145
Contact Melissa C. Mannion

Client/Case no Hanford SDG H2812
Contract No. 630

Lab sample id R411062-02
Dept sample id 7145-002

Client sample id Lab Control Sample
Material/Matrix WATER
SAF No F03-007

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Carbon 14	9380	98	38	200		C	9570	380	98	84-116	80-120
Nickel 63	261	6.1	2.8	15		NI_L	272	11	96	84-116	80-120
Thorium 230	22.4	0.88	0.10	1.0		TH	23.2	0.93	97	89-111	80-120
Iodine 129	535	6.3	6.9	5.0		I	508	20	105	90-110	80-120

200-PW-2/200-PW-4 OU - QC Sampling

QC-LCS 49894

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

R411062-04 B18569

DUPLICATE

SDG 7145 Client/Case no Hanford SDG H2812

Contact Melissa C. Mannion Contract No. 630

DUPLICATE	ORIGINAL	
Lab sample id R411062-04	Lab sample id R411062-01	Client sample id B18569
Dept sample id 7145-004	Dept sample id 7145-001	Location/Matrix 200-PW-2/216-S-7 WATER
	Received 11/04/04	Collected/Volume 10/29/04 07:00 6.25 L
		Custody/SAF No F03-007-020 F03-007

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ PROT TOT LIMIT
Carbon 14	1.75	21	36	200	U	C	-10.1	22	37	U	-	
Nickel 63	-0.210	1.7	2.9	15	U	NI_L	-2.02	1.5	2.8	U	-	
Thorium 228	0.007	0.027	0.048		U	TH	-0.008	0.017	0.031	U	-	
Thorium 230	-0.020	0.054	0.11	1.0	U	TH	-0.003	0.050	0.10	U	-	
Thorium 232	-0.003	0.013	0.026	1.0	U	TH	-0.003	0.017	0.034	U	-	
Iodine 129	-2.32	2.3	5.0	5.0	U	I	-1.57	1.9	4.4	U	-	

200-PW-2/200-PW-4 OU - QC Sampling

QC-DUP#1 49896

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

R411062-05

B1B569

MATRIX SPIKE

SDG 7145
Contact Melissa C. Mannion
MATRIX SPIKE
Lab sample id R411062-05
Dept sample id 7145-005

ORIGINAL
Lab sample id R411062-01
Dept sample id 7145-001
Received 11/04/04

Client/Case no Hanford SDG H2812
Contract No. 630
Client sample id B1B569
Location/Matrix 200-PW-2/216-S-7 WATER
Collected/Volume 10/29/04 07:00 6.25 L
Custody/SAF No F03-007-020 F03-007

ANALYTE	SPIKE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	ORIGINAL pCi/L	2σ ERR (COUNT)	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Carbon 14	27900	280	79	200	X	C	28700	1100	-10.1	22	97	84-116	60-140

200-PW-2/200-PW-4 OU - QC Sampling

QC-MS#1 49897

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-MS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

R411062-01 **B1B569**

DATA SHEET

SDG	7145	Client/Case no	Hanford SDG H2812
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R411062-01	Client sample id	B1B569
Dept sample id	7145-001	Location/Matrix	200-PW-2/216-S-7 WATER
Received	11/04/04	Collected/Volume	10/29/04 07:00 6.25 L
		Custody/SAF No	F03-007-020 F03-007

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Carbon 14	14762-75-5	-10.1	22	37	200	U	C
Nickel 63	13981-37-8	-2.02	1.5	2.8	15	U	NI_L
Thorium 228	14274-82-9	-0.008	0.017	0.031		U	TH
Thorium 230	14269-63-7	-0.003	0.050	0.10	1.0	U	TH
Thorium 232	TH-232	-0.003	0.017	0.034	1.0	U	TH
Iodine 129	15046-84-1	-1.57	1.9	4.4	5.0	U	I

200-PW-2/200-PW-4 OU - QC Sampling

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

Test TH Matrix WATER
SDG 7145
Contact Melissa C. Mannion

METHOD SUMMARY

THORIUM, ISOTOPIC IN WATER
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H2812

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Thorium 230
Preparation batch 7104-167					
B1B569	R411062-01			7145-001	U
BLK (QC ID=49895)	R411062-03			7145-003	U
LCS (QC ID=49894)	R411062-02			7145-002	ok
Duplicate (R411062-01)	R411062-04			7145-004	- U
Nominal values and limits from method				RDLs (pCi/L)	1.0
200-PW-2/200-PW-4 OU - QC Sampling					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7104-167	2σ prep error 5.0 %			Reference Lab Notebook 7104 pg. 167												
B1B569	R411062-01			0.10	0.500			85		1121			40	12/08/04	12/08	SS-060
BLK (QC ID=49895)	R411062-03			0.11	0.500			82		1122				12/08/04	12/08	SS-062
LCS (QC ID=49894)	R411062-02			0.10	0.500			84		1121				12/08/04	12/08	SS-061
Duplicate (R411062-01) (QC ID=49896)	R411062-04			0.11	0.500			81		973			41	12/08/04	12/09	SS-031
Nominal values and limits from method				1.0	0.500			20-110		150	100		180			

PROCEDURES
REFERENCE THISO_IE_PLATE_AEA
CP-900 Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
CP-008 Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.10 ± 0.012
YIELD 83 ± 4

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/26/05

00000015

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

Test I Matrix WATER
SDG 7145
Contact Melissa C. Mannion

METHOD SUMMARY

IODINE 129 IN WATER
GAMMA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H2812

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Iodine 129	
Preparation batch 7104-167						
B1B569	R411062-01			7145-001	U	
BLK (QC ID=49895)	R411062-03			7145-003	U	
LCS (QC ID=49894)	R411062-02			7145-002	ok	
Duplicate (R411062-01)	R411062-04			7145-004	-	U
Nominal values and limits from method				RDLs (pCi/L)	5.0	
200-PW-2/200-PW-4 OU - QC Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7104-167	2σ prep error 5.0 %			Reference Lab Notebook 7104 pg. 167												
B1B569	R411062-01			4.4	0.250			73		786			39	12/07/04	12/07	XSPEC-004
BLK (QC ID=49895)	R411062-03			3.1	0.250			88		836				12/07/04	12/08	XSPEC-004
LCS (QC ID=49894)	R411062-02			6.9	0.250			85		600				12/07/04	12/08	XSPEC-004
Duplicate (R411062-01) (QC ID=49896)	R411062-04			5.0	0.250			72		645			42	12/07/04	12/10	XSPEC-004
Nominal values and limits from method				5.0	0.250			20-105		300	100		180			

PROCEDURES	REFERENCE	
	I129_SEP_LEPS_GS	
	CP-024	Iodine-129, Sample Dissolution, rev 5
	CP-530	Iodine-129 Purification, rev 1

AVERAGES ± 2 SD FOR 4 SAMPLES			
	MDA	4.8	± 3.2
	YIELD	80	± 16

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/26/05

00000016

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

Test C Matrix WATER
SDG 7145
Contact Melissa C. Mannion

METHOD SUMMARY

CARBON 14 IN WATER
LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG H2812

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Carbon 14	
Preparation batch 7104-167						
B1B569	R411062-01			7145-001	U	
BLK (QC ID=49895)	R411062-03			7145-003	U	
LCS (QC ID=49894)	R411062-02			7145-002	ok	
Duplicate (R411062-01)	R411062-04			7145-004	-	U
Spike (R411062-01)	R411062-05			7145-005	ok	X
Nominal values and limits from method					RDLs (pCi/L)	200
200-PW-2/200-PW-4 OU - QC Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7104-167	2σ prep error 10.0 %			Reference Lab Notebook 7104 pg. 167												
B1B569	R411062-01			37	0.0300			100		100			50	12/16/04	12/18	LSC-004
BLK (QC ID=49895)	R411062-03			36	0.0300			100		100				12/16/04	12/18	LSC-004
LCS (QC ID=49894)	R411062-02			38	0.0300			100		90				12/16/04	12/18	LSC-004
Duplicate (R411062-01) (QC ID=49896)	R411062-04			36	0.0300			100		100			50	12/16/04	12/18	LSC-004
Spike (R411062-01) (QC ID=49897)	R411062-05			79	0.0200			100		46			51	12/16/04	12/19	LSC-004
Nominal values and limits from method				200	0.0300					50			180			

PROCEDURES REFERENCE C14_CHEM_LSC
CP-241 Carbon-14 in Aqueous Samples, rev 6

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 45 ± 38
YIELD 100 ± 0

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

Test NI_L Matrix WATER
SDG 7145
Contact Melissa C. Mannion

METHOD SUMMARY

NICKEL-63 IN LIQUID
LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG H2812

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Nickel 63	
Preparation batch 7104-167						
B1B569	R411062-01			7145-001	U	
BLK (QC ID=49895)	R411062-03			7145-003	U	
LCS (QC ID=49894)	R411062-02			7145-002	ok	
Duplicate (R411062-01)	R411062-04			7145-004	-	U
Nominal values and limits from method				RDLs (pCi/L)	15	
200-PW-2/200-PW-4 OU - QC Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7104-167	2σ prep error 10.0 %			Reference Lab Notebook 7104 pg. 167												
B1B569	R411062-01			2.8	0.500			95		50			42	12/09/04	12/10	LSC-004
BLK (QC ID=49895)	R411062-03			2.8	0.500			95		50				12/09/04	12/10	LSC-004
LCS (QC ID=49894)	R411062-02			2.8	0.500			97		50				12/09/04	12/10	LSC-004
Duplicate (R411062-01) (QC ID=49896)	R411062-04			2.9	0.500			94		50			42	12/09/04	12/10	LSC-004
Nominal values and limits from method				15	0.500					50			180			

PROCEDURES REFERENCE NI63_LSC
CP-280 Nickel-63 Purification, rev 3

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 2.8 ± 0.10
YIELD 95 ± 3

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/26/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H2812

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H2812

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

* LAB SAMPLE ID is the lab's primary identification for a sample.

* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.

* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.

* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

  QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H2812

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

  Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

00000020

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_H2812

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_H2812

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

  The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

U The RESULT is less than the MDA (Minimum Detectable Activity).

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H2812

DATA SHEET

If the MDA is blank, the ERROR is used as the limit.

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

00000023

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG_H2812

DATA SHEET

* An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA may not be a good estimate of the 'real' minimum detectable activity.

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H2812

LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

  An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

     If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

  2. The error of ADDED.

  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

* The second limits are protocol defined upper and lower QC limits for the recovery.

* The recovery is underlined if it is outside either of these ranges.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_H2812

DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

  If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTs are underlined.

* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTs divided by their average expressed as a percent.

  If both RESULTs are less than their MDAs, no RPD is computed and a '-' is printed.

  For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTs prior to printing.

  If this limit is labeled TOT, it includes the preparation error in the RESULTs. If labeled CNT, it does not.

  This value reported for this limit is at most 999.

* The second limit for the RPD is the larger of:

  1. A fixed percentage specified in the protocol.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG_H2812

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

* The RPD is underlined if it is greater than either limit.

* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

  Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_H2812

MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

  If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTs are underlined.

* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

  An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The errors of the two RESULTs, including those introduced by rounding them prior to printing.

     If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

  2. The error of ADDED.

  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

* The second limits are protocol defined upper and lower QC limits

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG_H2812

MATRIX SPIKE

for the recovery.

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

* The recovery is underlined (out of spec) if it is outside either of these ranges.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_H2812

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

  There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

  The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

  The J and X flags are as on the data sheet.

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data'

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

METHOD SUMMARY

means no amount ADDED was specified. 'LOW' and 'HIGH' correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

  MDAs are underlined if greater than the printed RDL.

* Aliquots are underlined if less than the nominal value specified for the method.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG_H2812

METHOD SUMMARY

* Count times are underlined if less than the nominal value specified for the method.

* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.

* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.

* Days Held are underlined if greater than the holding time specified in the protocol.

* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1÷3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

SDG 7145
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H2812

METHOD SUMMARY

results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included. No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/05

FLUOR Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-007-020	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7N	DATA TURNAROUND
Johansen/Alexander/Gent	LC Hulstrom	373-3928	TRENT, SJ	AIR QUALITY [ ]	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
200-PW-2/216-S-7	200-PW-2/200-PW-4 OU - QC Sampling H2812 (7145)		F03-007		
ICE CHEST NO. GRP-03-007	**FIELD LOGBOOK NO.** HNF-N-384 1	**COA** 119153ES10	**METHOD OF SHIPMENT** Federal Express		
SHIPPED TO Eberline Services	**OFFSITE PROPERTY NO.** 24 PTC 1439		**BILL OF LADING/AIR BILL NO.** 24 PTC 1439		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

Samples did not originate in radiological controlled area. No total activity associated with samnle/samples.

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S) / VOLUME	SAMPLE ANALYSIS
B1B569	WATER	10-29-04	0700	HNO3 to pH <2	P	1 / 1000mL	Isotopic Thorium (Thorium-232)
				HNO3 to pH <2	P	1 / 1000mL	Nickel-63;
				None	P	1 / 250mL	Carbon-14;
				None	P	4 / 1000mL	Iodine-129;

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
PMG ENT	0745/10/29/04	J.S. Pope/ASR	10-29-04 0745
J.S. Pope/ASR	10-29-04 0800	MO-426 Fridge # 6	10-29-04 0800
MO-426 Fridge # 6	11/3/04 0815	M.H. Barcher M.G. Barcher	11/3/04 0815
M.H. Barcher M.G. Barcher	11/3/04 0915	Fed Ex	
Fed Ex	11/4/04 9:45		11/4/04 11:05

SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: Ihnor Hanford / City Richland State WA

Date/Time received 11/4/09 9:45 CoC No. F03-007-020 /

Container I.D. No. GRR03038 Requested TAT (Days) 45 P.O. Received Yes [ ] No [ ]

INSPECTION

1.	Custody seals on shipping container intact?	Yes [NP]	No [ ]	N/A [ ]
2.	Custody seals on shipping container dated & signed?	Yes [NP]	No [ ]	N/A [ ]
3.	Custody seals on sample containers intact?	Yes [NP]	No [ ]	N/A [ ]
4.	Custody seals on sample containers dated & signed?	Yes [NP]	No [ ]	N/A [ ]
5.	Packing material is:	Wet [ ]	Dry [NP]	
6.	Number of samples in shipping container: 1	Sample Matrix W		
7.	Number of containers per sample: 2	(Or see CoC _____)		
8.	Samples are in correct container	Yes [Y]	No [ ]	
9.	Paperwork agrees with samples?	Yes [Y]	No [ ]	
10.	Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [Y]			
11.	Samples are: In good condition [Y] Leaking [ ] Broken Container [ ] Missing [ ]			
12.	Samples are: Preserved [Y] Not preserved [ ] pH 1 Preservative HNO3			
13.	Describe any anomalies: _____			
14.	Was P.M. notified of any anomalies?	Yes [ ]	No [ ]	Date _____
15.	Inspected by _____	Date: 11/4/09	Time: 11:25	

Customer Sample No.	cpm	mR/hr	wipe	Customer Sample No.	cpm	mR/hr	wipe

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. _____ Calibration date _____